REMARKS

Claims 1-41 are pending in this application with claims 1, 3, 21, 23, 26, 36, 39, and 40 being independent. Claims 1, 3, 21, 23, 26, 36, 39, and 40 have been amended.

Independent claims 1 and 26 have been rejected as being anticipated by Harkin (U.S. Patent No. 6,327,376). Claim 1, as amended, recites a user identity authentication system including a liquid crystal display device having a built-in image sensor. The liquid crystal display device includes a pixel portion having "a pixel thin film transistor," "a source signal line," "a liquid crystal element," "a gate signal line," and "a capacitance line." The built-in image sensor includes "a first thin film transistor," "a sensor gate signal line," "a sensor output wiring," "a second thin film transistor," "a reset gate signal line," and "a sensor power source line." Applicants request reconsideration and withdrawal of the rejection of claims 1 and 26 because Harkin does not describe or suggest a liquid crystal display pixel portion or image sensor having the recited elements.

Harkin describes a fingerprint sensing device that includes a fingerprint sensing array 10 having regularly spaced sense elements 12 electronically connected to a sense circuit 24. Each sense element 12 includes a sense electrode 30 positioned under a thin dielectric film 36 (col. 6, lines 24-45). When a finger is positioned over the sensing array 10, the capacitance between the sense electrodes 30 and the surface of the finger is detected. The capacitance that is detected at a given sense electrode 30 varies depending on whether a ridge of the finger surface is positioned over that sense electrode 30. The sense circuit 24 detects the variation of the capacitance at each sense electrode 30 and provides an output that may be used to generate an image of the fingerprint and its corresponding ridge pattern (col. 6, line 58 to col. 7, line 9). Accordingly, Harkin's capacitive sensing detection mechanism does correspond to the recited pixel portion since Harkin's mechanism does not employ the recited elements including a pixel thin film transistor and a liquid crystal element.

Harkin's capacitive sensing detection mechanism also does not correspond to the recited built-in image sensor. Harkin describes combining the fingerprint sensing array 10 with a flat

panel display device 70 but does not describe or suggest the recited elements of the built-in image sensor, including a thin film transistor or a reset gate signal line (col. 9, lines 13 to 67).

For at least these reasons, applicant requests reconsideration and withdrawal of the rejection of claim 1.

Claim 26 recites a user identity authentication method provided with a liquid crystal display having first and second front lights and a built-in image sensor. As amended, the method includes "a step of reading individual information of a user...*when the first front light is lit up*" (emphasis added) and "a step of displaying an image *when the second front light is lit up*; and ...wherein the first and second front lights are not lit up simultaneously" (emphasis added). Applicants request reconsideration and withdrawal of the rejection of claim 26 because Harkin does not describe or suggest the recited reading and displaying steps.

As shown in Fig. 6, Harkin describes a device combining the fingerprint sensing array 10 with a flat panel display device 70 to enable fingerprints to be sensed and images to be displayed in a single device. However, Harkin does not describe or suggest a method provided with a liquid crystal display having first and second front lights that includes the recited reading step when the first front light is lit up and the recited displaying step when the second front light is lit up. For at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 26.

Dependent claims 2, 7-10, 15, 17, 27, and 29-34 have been rejected as being unpatentable over Harkin in view of Katagiri (U.S. Patent No. 5,966,112). Claims 2, 7-10, 15, and 17 depend from claim 1. As discussed above, Harkin does not describe or suggest the recited pixel portion or image sensor. Katagiri does not remedy the deficiency of Harkin. Katagiri describes an integrated image-input type display unit that uses a liquid crystal display panel and is capable of writing an image directly at a high resolution into the liquid crystal display panel and electrically reading the image. Katagiri, however, does not describe or suggest the recited pixel portion and image sensor. Accordingly, for at least this reason, applicant requests reconsideration and withdrawal of the rejection of claims 2, 7-10, 15 and 17.

Claims 27 and 29-34 depend from claim 26. As discussed above, Harkin does not describe or suggest the recited reading and displaying steps. Katagiri does not remedy the deficiency of Harkin. Accordingly, for at least this reason, applicant requests reconsideration and withdrawal of the rejection of claims 27 and 29-34.

Dependent claims 19 and 35 have been rejected as being unpatentable over Harkin in view of Katagiri and further in view of Black (U.S. Patent No. 6,539,101). Claim 19 depends from claim 1. As discussed above, neither Harkin, Katagiri, nor any combination of the two describes or suggests the pixel portion and image sensor of claim 1. Black does not remedy the deficiency of Harkin and Katagiri. Black describes a stylus that employs biometric technology for user identification. Black does not describe or suggest the recited pixel portion and image sensor. Accordingly, for at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 19.

Claim 35 depends from claim 26. As discussed above, neither Harkin, Katagiri, nor any combination of the two describes or suggests the reading and displaying steps of claim 26. Black does not remedy the deficiency of Harkin and Katagiri. Accordingly, for at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 35.

Independent claim 3 and dependent claims 4, 11-14, 16, and 18 have been rejected as being unpatentable over Harkin in view of Scott (U.S. Patent No. 6,484,260). Claim 3, as amended, recites a user identity authentication system including a liquid crystal display device having a built-in image sensor. The liquid crystal display includes a pixel portion having "a pixel thin film transistor," "a source signal line," "a liquid crystal element," "a gate signal line," and "a capacitance line." The built-in image sensor includes "a first thin film transistor," "a sensor gate signal line," "a sensor output wiring," "a second thin film transistor," "a reset gate signal line," and "a sensor power source line." Applicants request reconsideration and withdrawal of the rejection of claim 3 and its dependent claims because neither Harkin, Scott, nor any combination of the two describes or suggests the recited pixel portion and image sensor.

As discussed above in reference to claim 1, Harkin does not describe or suggest the recited pixel portion or image sensor. Scott does not remedy the deficiency of Harkin. Scott

describes a portable personal identification device that uses biometric technology to identify a user and to provide users with access to a secured host building. Scott does not describe or suggest the recited pixel portion and image sensor. Accordingly, for at least these reasons, applicant requests reconsideration and withdrawal of the rejection of claim 3 and its dependent claims.

Dependent claim 20 has been rejected as being unpatentable over Harkin in view of Scott and further in view of Black. Claim 20 depends from claim 3. For at least the reasons discussed above, neither Harkin, Scott, Black, nor any combination of the three describe or suggest the recited pixel portion and image sensor. Accordingly, applicant requests reconsideration and withdrawal of the rejection of claim 20.

Dependent claims 5 and 28 have been rejected as being unpatentable over Harkin in view of Katagiri and Kubo (U.S. Patent No. 6,456,279).

Claim 5 depends from claim 1. For at least the reasons discussed above in reference to claims 2, 7-10, 15, 17, 27, and 29-34, neither Harkin, Katagiri, nor any combination of the two describe or suggest the recited pixel portion and image sensor. Kubo does not remedy the deficiencies of Harkin and Katagiri. Kubo describes a liquid crystal display device with a touch panel. Kubo does not describe or suggest the recited pixel portion and image sensor. Accordingly, for at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 5.

Claim 28 depends from claim 26. For at least the reasons discussed above with respect to claim 35, neither Harkin, Katagiri, nor any combination of the two describe or suggest the recited reading and displaying steps. Kubo does not remedy the deficiency of Harkin and Katagiri. Accordingly, for at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 28.

Dependent claim 6 has been rejected as being unpatentable over Harkin in view of Scott and further in view of Kubo. Claim 6 depends from claim 3. For at least the reasons discussed above, neither Harkin, Scott nor any combination of the two describe or suggest the recited pixel portion and image sensor. Kubo does not remedy the failure of Harkin and Scott. Accordingly,

for at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 6.

Independent claims 21 and 36 and dependent claims 22 and 37 have been rejected as being unpatentable over Harkin in view of Nobakht (U.S. Patent No. 6,587,873).

Claim 21, as amended, recites a user identity authentication system including a liquid crystal display device having a built-in image sensor. The liquid crystal display device includes a pixel portion having "a pixel thin film transistor," "a source signal line," "a liquid crystal element," "a gate signal line," and "a capacitance line." The image sensor includes "a first thin film transistor," "a sensor gate signal line," "a sensor output wiring," "a second thin film transistor," "a reset gate signal line," and "a sensor power source line." Applicants request reconsideration and withdrawal of the rejection of claim 21 and dependent claim 22 because neither Harkin, Nobakht, nor any combination of the two, describes or suggests the recited pixel portion and image sensor.

As discussed above in reference to claim 1, Harkin does not describe or suggest the recited pixel portion or image sensor. Nobakht does not remedy the deficiency of Harkin. Nobakht describes a system and server that may be used to access Internet sites. Nobakht does not describe or suggest the recited pixel portion and image sensor. For at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 21 and dependent claim 22.

Claim 36, as amended, recites a user identity authentication method provided with a liquid crystal display having first and second front lights and a built-in image sensor that includes "a step of reading individual information of a user...*when the first front light is lit up*" (emphasis added) and "a step of displaying an image *when the second front light is lit up*; and ... wherein the first and second front lights are not lit up simultaneously" (emphasis added). Applicants request reconsideration and withdrawal of the rejection of claim 36 and its dependent claim 37 because neither Harkin, Nobakht, nor any combination of the two describes or suggests the recited reading and displaying steps.

As discussed above in reference to claim 26, Harkin does not describe or suggest the recited reading and displaying steps. Nobakht does not remedy the deficiency of Harkin. For at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 36 and its dependent claim 37.

Independent claim 23 has been rejected as being unpatentable over Harkin in view of Scott and Nobakht (U.S. Patent No. 6,587,873).

Claim 23, as amended, recites a user identity authentication system including a liquid crystal display device having a built-in image sensor. The liquid crystal display includes a "pixel portion" having "a pixel thin film transistor," "a source signal line," "a liquid crystal element," "a gate signal line," and "a capacitance line," and also including an image sensor having "a first thin film transistor," "a sensor gate signal line," "a sensor output wiring," "a second thin film transistor," "a reset gate signal line," and "a sensor power source line." Applicants request reconsideration and withdrawal of the rejection of claim 23 because neither Harkin, Scott, Nobakht, nor any combination of the three, describes or suggests the recited pixel portion and image sensor.

As discussed above in reference to claim 21, neither Harkin, Nobakht, nor any combination of the two describes or suggests the recited pixel portion and image sensor. Scott does not remedy the deficiency of Harkin. As discussed above in reference to claim 3, Scott does not describe or suggest the recited pixel portion and image sensor. For at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 23.

Dependent claims 24 and 38 have been rejected as being unpatentable over Harkin in view of Nobakht and Kubo. Claim 24 depends from claim 23. For the reasons discussed above in reference to claim 23, neither Harkin, Nobakht, nor any combination of the two describe or suggest the recited pixel portion and image sensor. As discussed above in reference to claims 5 and 28, Kubo does not remedy the deficiencies of Harkin and Nobakht. Accordingly, for at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 24.

Claim 38 depends from claim 36. For the reasons discussed above in reference to claim 36, neither Harkin, Nobakht, nor any combination of the three, describes or suggests the recited

reading and displaying steps. Kubo does not remedy the deficiency of Harkin and Nobakht. For at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 38.

Dependent claim 25 has been rejected as being unpatentable over Harkin in view of Scott, Nobakht, and in further view of Kubo. Claim 25 depends from claim 23. For the reasons discussed above in reference to claim 23, neither Harkin, Nobakht, Scott, nor any combination of the three describe or suggest the recited pixel portion and image sensor. Kubo does not remedy the deficiencies of Harkin, Nobakht and Scott. Accordingly for at least this reason, applicant requests reconsideration and withdrawal of the rejection of claim 25.

Independent claims 39 and 40 have been rejected as being unpatentable over Harkin in view of Katagiri and Ishii (U.S. Patent No. 6,594,505).

Claim 39, as amended, recites a mobile telephonic device including liquid crystal display device. The liquid crystal display device includes a pixel portion having a plurality of pixels, each pixel including "a pixel thin film transistor," "a source signal line," "a liquid crystal element," "a gate signal line," and "a capacitance line." Applicants request reconsideration and withdrawal of the rejection of claim 39 because neither Harkin, Katagiri, Ishii, nor any combination of the three, describes or suggests the recited pixel portion.

Neither Harkin, Katagiri, nor any combination of the two describes or suggests the recited pixel portion. Ishii does not remedy the deficiency of Harkin and Katagiri. Ishii describes a mobile telephone system capable of coping with a number of different mobile radio telephone systems by a single mobile radio telephone. Ishii does not describe or suggest the recited pixel portion. Accordingly, for at least these reasons, applicant requests reconsideration and withdrawal of the rejection of claim 39.

Claim 40, as amended, recites a mobile telephonic device including a liquid crystal display device having a built-in image sensor. The liquid crystal display device includes a pixel portion having a plurality of pixels, each pixel including "a pixel thin film transistor," "a source signal line," "a liquid crystal element," "a gate signal line," and "a capacitance line." Applicants

request reconsideration and withdrawal of the rejection of claim 40 because. neither Harkin, Katagiri, Ishii, nor any combination of the three, describes or suggests the recited pixel portion.

As discussed above in reference to claim 39, neither Harkin, Katagiri, Ishi, nor any combination of the three describe or suggest the recited pixel portion. Accordingly, for at least these reasons, applicant requests reconsideration and withdrawal of the rejection of claim 40.

Dependent claim 41 has been rejected as being unpatentable over Harkin in view of Katagiri, Ishii, and Kubo. Claim 41 depends from claim 40. As discussed above in reference to claim 40, neither Harkin, Katagiri, Ishii, nor any combination of the three describes or suggests the recited pixel portion. Kubo also does not describe or suggest the recited pixel portion. Accordingly, applicant requests reconsideration and withdrawal of the rejection of claim 41.

Applicant submits that all claims are in condition for allowance.

Enclosed is a $110 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 1/13/04

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